

# Strenx® 110 XF

## General Product Description

Strenx® 110 XF cold forming steel is a thermomechanically rolled product with a minimum yield strength of 110 ksi.

Strenx® 110 XF is a cold forming steel for light- and heavy transport solutions and components.

### Available dimensions

Strenx® 110 XF is available in thicknesses of 0.079 - 0.393 inches (2-10 mm), and in widths up to 63 inches (1600 mm) as coil, slit coil and cut to length sheets in lengths up to 630 inches (16000 mm).

## Mechanical Properties

Yield strength R <sub>eH</sub> Min ksi/MPa	Tensile strength R <sub>m</sub> Min ksi/MPa	Elongation A <sub>50</sub> Min % Sheet thickness t ≥ 2mm
110/760	118/813	15

The mechanical properties are tested in the transverse direction.

Impact properties	-40°F / (-40°C)
Minimum energy for test on longitudinal Charpy V 10x10 mm test specimens <sup>1)</sup> ft-lbs (J)	20 / (27)

<sup>1)</sup>Impact testing according to EN ISO 148-1 is performed on thicknesses ≥ 0.236 inch (6.0mm). The specified minimum value corresponds to a full-size specimen.

Bending properties	t < 0.137 inch	0.137 ≤ t ≤ 0.236 inch	t > 0.236 inch
Min. inner bending radius for a 90° bend	0.8 xt	1.2 xt	1.6 xt

For both longitudinal and transverse direction.

## Chemical Composition (ladle analysis)

C Max %	Si Max %	Mn Max %	P Max %	S Max %	Al Min %	Nb Max %	V Max %	Ti Max %
0.12	0.03 <sup>1)</sup>	2.10	0.025	0.010	0.015	0.09 <sup>2)</sup>	0.20 <sup>2)</sup>	0.15 <sup>2)</sup>

<sup>1)</sup> Strenx 110XF is available with different levels of Si: from max 0.03%, up to max 0.28%.

Max Si 0.03% is the standard version that is suitable for hot dip galvanizing with thin Zinc layers, and for products that will not be galvanized.

If the material is to be hot-dip galvanized and a thicker Zinc layer is requested, this must be specified at the time of order.

<sup>2)</sup> Sum of Nb, V and Ti = 0.22% max.

## Tolerances

More details are given on [www.ssab.com](http://www.ssab.com).

### Thickness

Tolerances according to Strenx<sup>®</sup> Thickness Guarantees.

Strenx<sup>®</sup> Guarantees offer considerably narrower thickness tolerances compared to EN 10 051.

### Length and width

Width and length tolerances according to SSAB standard.

The SSAB standard offer narrower width and length tolerances compared to EN 10 051.

Length tolerances only apply for cut to length sheets.

### Shape

Tolerances according to EN 10 051.

Narrower tolerances according to the SSAB standard are available on request.

### Flatness

Tolerances according to Strenx<sup>®</sup> Flatness Guarantees Class A.

Strenx<sup>®</sup> Flatness Guarantees offer narrower tolerances compared to EN 10 051.

Flatness guarantees only apply for cut to length sheets.

### Surface Properties

According to EN 10 163-2 Class A, Subclass 3.

## Delivery Conditions

Thermomechanically Rolled. Strenx<sup>®</sup> 110 XF is available in as rolled or pickled surface condition with mill or cut edge.

## Fabrication and Other Recommendations

### Welding, bending and machining

Strenx<sup>®</sup> 110 XF has good welding, cold forming and cutting performance. Strenx<sup>®</sup> 110 XF is a cold forming steel not suited for heat treatments at temperatures above 1080°F (580°C) since the material then may lose its guaranteed properties.

For information concerning fabrication, see SSAB's brochures on [www.ssab.com](http://www.ssab.com) or consult Tech Support, [techsupport@ssab.com](mailto:techsupport@ssab.com).

Appropriate health and safety precautions must be taken when bending, welding, cutting, grinding or otherwise working on the product.

## Contact and Information

For information, see SSAB's brochures on [www.ssab.com](http://www.ssab.com) or consult Tech Support, [techsupport@ssab.com](mailto:techsupport@ssab.com).